

What is claimed is:

1. A toner cartridge adapted to fit within a toner cartridge-receiving cavity of a printer, comprising:

a waste bin positioned at a leading end of said toner cartridge;

a hopper connected to said waste bin at a trailing end of said waste bin;

said waste bin and said hopper being fixedly interconnected to one another and being held against movement relative to one another when fully installed within said toner cartridge receiving cavity; and

said waste bin having a leading end sculpted to mate with the cartridge receiving cavity of a plurality of printer families;

whereby said toner cartridge fits differing printer models distributed by differing manufacturers.

2. The toner cartridge of claim 1, further comprising:

said leading end of said waste bin having a hollow structure defined by a vertical leading wall, a pair of upstanding sidewalls, a horizontal, flat top wall, a bottom wall, and an open trailing end in open communication with said hopper; and

said vertical leading wall having a transverse extent less than a transverse extent of said open trailing end;

whereby said leading end mates with a printer having a toner cartridge-receiving cavity having a relatively wide opening that tapers down to a relatively narrow opening.

3. The toner cartridge of claim 1, further comprising:

said leading end of said waste bin having a first outboard end, a second outboard end, a first half and a second half;

a plurality of recesses formed in said leading end;

each recess of said plurality of recesses being formed in said leading end at a preselected location that accommodates a protrusion formed in a plurality of printer models;

whereby said leading end mates with a printer having no protrusions formed in said toner cartridge-receiving cavity;

whereby said leading end mates with a printer having one protrusion formed in said toner cartridge-receiving cavity; and

whereby said leading end mates with a printer having a plurality of protrusions formed in said toner cartridge-receiving cavity.

4. The toner cartridge of claim 3, further comprising:

a first outboard recess formed in said first outboard end of said leading end;  
a first leading end recess positioned in the middle of said first half of said leading end;  
a second leading end recess positioned in the middle of said leading end;  
a third leading end recess positioned in the middle of said second half of said leading end;

and

a second outboard recess formed in said second outboard end of said leading end;

whereby said leading end mates with a printer having no protrusions formed in said toner cartridge-receiving cavity;

whereby said leading end mates with a printer having at least one protrusion formed in said toner cartridge-receiving cavity; and

whereby said leading end mates with a printer having a plurality of protrusions formed in said toner cartridge-receiving cavity.

5. The toner cartridge of claim 3, further comprising:

a first outboard recess formed in said first outboard end of said leading end;  
an elongate recess formed in said leading end of said waste bin;  
said elongate recess being centered with respect to said leading end; and  
a second outboard recess formed in said second outboard end of said leading end;

whereby said leading end mates with a printer having no protrusions formed in said toner cartridge-receiving cavity;

whereby said leading end mates with a printer having one protrusion formed in said toner cartridge-receiving cavity; and

whereby said leading end mates with a printer having a plurality of protrusions formed in said toner cartridge-receiving cavity.

6. The toner cartridge of claim 3, further comprising:

an elongate step formed in said leading end of said waste bin;  
said elongate step extending the entire extent of said leading end;

whereby said leading end mates with a printer having no protrusions formed in said toner cartridge-receiving cavity;

whereby said leading end mates with a printer having one protrusion formed in said toner cartridge-receiving cavity; and

whereby said leading end mates with a printer having a plurality of protrusions formed in said toner cartridge-receiving cavity.

7. The toner cartridge of claim 3, further comprising:

a first elongate recess extending from said first outboard end of said leading end to a point about half-way along the extent of said leading end of said waste bin; and

a second recess extending from said second outboard end of said leading end to a point about half-way along the extent of the second half of said leading end of said waste bin.

whereby said leading end mates with a printer having no protrusions formed in said toner cartridge-receiving cavity;

whereby said leading end mates with a printer having one protrusion formed in said toner cartridge-receiving cavity; and

whereby said leading end mates with a printer having a plurality of protrusions formed in said toner cartridge-receiving cavity.

8. The toner cartridge of claim 3, further comprising:

a first outboard recess;

a first leading end recess positioned in the middle of said first half of said leading end;

a second leading end recess positioned in the middle of said leading end; and

a fourth recess that extends from said second outboard end of said leading end to a point about mid-length of said second half of said leading end;

whereby said leading end mates with a printer having no protrusions formed in said toner cartridge-receiving cavity;

whereby said leading end mates with a printer having one protrusion formed in said toner cartridge-receiving cavity; and

whereby said leading end mates with a printer having a plurality of protrusions formed in said toner cartridge-receiving cavity.

9. The toner cartridge of claim 3, further comprising:

a first outboard recess formed in said first outboard end of said leading end;

a second leading end recess that occupies almost all of said first half of said leading end from a mid-point of said leading end to a point near said first outboard recess;

a third leading end recess positioned in the middle of said second half of said leading end;

and

a second outboard recess formed in said second outboard end of said leading end;

whereby said leading end mates with a printer having no protrusions formed in said toner cartridge-receiving cavity;

whereby said leading end mates with a printer having one protrusion formed in said toner cartridge-receiving cavity; and

whereby said leading end mates with a printer having a plurality of protrusions formed in said toner cartridge-receiving cavity.

10. The toner cartridge of claim 3, further comprising:

a first outboard recess formed in said first outboard end of said leading end;

a second outboard recess formed in said second outboard end of said leading end;

a first leading end recess formed in the middle of said first half of said leading end;

a second leading end recess that occupies said second half of said leading end, extending from about the mid-point of said second half to a point near second outboard recess;

whereby said leading end mates with a printer having no protrusions formed in said toner cartridge-receiving cavity;

whereby said leading end mates with a printer having one protrusion formed in said toner cartridge-receiving cavity; and

whereby said leading end mates with a printer having a plurality of protrusions formed in said toner cartridge-receiving cavity.

11. The toner cartridge of claim 3, further comprising:

a first recess that extends from a first outboard end of said leading end of the waste bin to a point about mid-length of the first half of said leading end;

a second leading end recess formed in the middle of said leading end;

a third leading end recess positioned in the middle of said second half of said leading end;  
and

a second outboard recess formed in said second outboard end of said leading end.

whereby said leading end mates with a printer having no protrusions formed in said toner cartridge-receiving cavity;

whereby said leading end mates with a printer having one protrusion formed in said toner cartridge-receiving cavity; and

whereby said leading end mates with a printer having a plurality of protrusions formed in said toner cartridge-receiving cavity.

12. The toner cartridge of claim 3, further comprising:

a first recess that extends from said first outboard end of said leading end of said waste bin to a point about mid-length of the first half of said leading end; and

a second recess that extends from said second outboard end of said leading end to a point about mid-length of said leading end of said waste bin.

whereby said leading end mates with a printer having no protrusions formed in said toner cartridge-receiving cavity;

whereby said leading end mates with a printer having one protrusion formed in said toner cartridge-receiving cavity; and

whereby said leading end mates with a printer having a plurality of protrusions formed in said toner cartridge-receiving cavity.

13. The toner cartridge of claim 3, further comprising:

a first recess that extends from a first outboard end of said leading end to a point near the middle of the first half of said leading end;

a second leading end recess positioned at the middle of said leading end; and

a third leading end recess extending from said second outboard end of said leading end to a point near said middle of the second half of said leading end;

whereby said leading end mates with a printer having no protrusions formed in said toner cartridge-receiving cavity;

whereby said leading end mates with a printer having one protrusion formed in said toner cartridge-receiving cavity; and

whereby said leading end mates with a printer having a plurality of protrusions formed in said toner cartridge-receiving cavity.

14. The toner cartridge of claim 1, further comprising:

a first circuit board mounting pad formed in a substantially horizontal top wall of said waste bin;

said first circuit board mounting pad having a size sufficient to hold a large circuit board;

said large circuit board having a size sufficient to receive first printer door contacts in a first position and second printer door contacts in a second position;

whereby said first printer door contacts are adapted to mate with contact pins that belong to a first group of printers;

whereby said second printer door contacts are adapted to mate with contact pins that belong to a second group of printers;

whereby said large circuit board mounting pad enables said toner cartridge to universally accept all printers having printer door contacts that are adapted to engage circuit boards that are horizontally mounted.

15. The toner cartridge of claim 1, further comprising:

a second circuit board mounting pad positioned on a vertical wall of said waste bin;

said vertical wall being disposed in trailing relation to said vertical leading wall of said leading end of said waste bin;

said second circuit board mounting pad adapted to mate with a third group of printers that include front contact pins that mate with circuit boards positioned on vertical mounting pads;

said second circuit board mounting pad adapted to receive a large circuit board;

whereby said second circuit board mounting pad is also adapted to receive a small circuit board.

16. The toner cartridge of claim 1, further comprising:

a thumb grip formed in said trailing end of said waste bin, centrally thereof;

said thumb grip being dish-shaped to accept a thumb.

17. The toner cartridge of claim 1, further comprising:

an arch extending transversely across said waste bin trailing end;

said arch rising to a height sufficient to accommodate a user's fingers when said user's thumb is positioned in said thumb grip.

18. The toner cartridge of claim 1, further comprising:

a plurality of media guides formed in a bottom wall of said waste bin;

each of said media guides having rounded surfaces to reduce friction as paper travels over said media guides.

19. The toner cartridge of claim 1, further comprising:

a hopper torque tab receptacle formed in said waste bin;

said hopper tab receptacle adapted to vertically receive a hopper torque tab formed in said hopper when said waste bin is connected to said hopper;

whereby said hopper is keyed to said waste bin when said hopper torque tab is received within said hopper torque tab receptacle, thereby preventing lateral movement between said hopper and said waste bin when a driving force is applied to said hopper.

20. The toner cartridge of claim 19, further comprising:

said hopper torque tab receptacle having a radius formed in its peripheral edges to facilitate entry of said hopper torque tab into said hopper torque tab receptacle.

21. The toner cartridge of claim 1, further comprising:

a microswitch actuating tab formed in upstanding relation to a top wall of said waste bin;

said microswitch actuating tab having a flat construction;

a brace means formed at a base of said upstanding microswitch actuating tab to ensure that said microswitch actuating tab maintains said upstanding position;

said microswitch actuating tab adapted to actuate a microswitch that is adapted to activate said printer when a door of said printer is fully closed;

said microswitch actuating tab having a height sufficient to actuate said microswitch even when said door of said printer has worn latches, worn hinges, or both and therefore does not fully close; and

said microswitch actuating tab extending above a highest point of said waste bin;

whereby the microswitch actuating tab centers on a microswitch port to properly position the closing of the printer door even when the hinges and latches of said printer door are worn; and

whereby said printer receives an actuating signal when said door of said printer is closed even if said printer has worn latches and hinges.

22. The toner cartridge of claim 1, further comprising:

a microswitch actuating tab formed in upstanding relation to a top wall of said waste bin; said microswitch actuating tab having a top section, a mid-section, and a bottom section;

and

said top section widening from top to bottom, said bottom section narrowing from top to bottom, and said mid-section being wider than said top section and said bottom section;

whereby the narrow top edge of said microswitch actuating tab facilitates its entry into a narrow opening formed in the bottom edge of said printer door;

whereby said widened middle section helps said microswitch actuating tab to positively engage said narrow opening;

whereby the microswitch actuating tab centers on a microswitch port to properly position the closing of the printer door even when the hinges and latches of said printer door are worn; and

whereby said printer receives an actuating signal when said door of said printer is closed even if said printer has worn latches and hinges.

23. The toner cartridge of claim 1, further comprising:

a planar wing formed in each sidewall of said waste bin;

each planar wing formed on an outboard side of its associated sidewall;

each planar wing adapted to slidably engage a guide groove formed in said printer;

each planar wing having a uniform thickness along its extent;

whereby each planar wing has structural integrity and does not flex when said waste bin cartridge is being installed into said printer.

24. The toner cartridge of claim 23, further comprising:

each planar wing having a leveled trailing end;

whereby said leveled end ensures optimal positioning of key components; and

whereby said leveled end facilitates installation and removal of said toner cartridge.

whereby said cartridge is easily loaded into the printer.

25. The toner cartridge of claim 23, further comprising:



said trailing end of each planar wing being bifurcated into an upper trailing end and a lower trailing end;

said guide groove formed in said printer having an undercut area at its trailing end;

said lower trailing end of each planar wing fitting into said undercut area when said toner cartridge is fully received within said printer;

whereby said toner cartridge locks into place when said lower trailing end of each planar wing fits into said undercut area; and

whereby lifting a trailing end of said toner cartridge to remove said toner cartridge from said printer cavity retracts said lower trailing end from said undercut area.

26. The toner cartridge of claim 23, further comprising:

said planar wing being discontinuous along its extent;

said planar wing having a leading part and a trailing part;

said guide groove formed in said printer having an undercut area at its trailing end;

said trailing end of each trailing part of each planar wing being bifurcated into an upper trailing end and a lower trailing end;

said lower trailing end of each trailing part of each planar wing fitting into said undercut area when said toner cartridge is fully received within said printer;

whereby materials are saved by eliminating a medial part of each planar wing without compromising the structural integrity of the connection between the toner cartridge and the printer;

whereby said toner cartridge locks into place when said lower trailing end of each trailing part of each planar wing fits into said undercut area; and

whereby lifting a trailing end of said toner cartridge to remove said toner cartridge from said printer cavity retracts said lower trailing end of each trailing part of each planar wing from said undercut area.

27. The toner cartridge of claim 1, further comprising:

a plurality of axle members formed in each sidewall of said waste bin;

a wheel mounted to a free end of each axle member of said plurality of axle members;

each wheel respectively engaging a guide groove formed in said printer;

whereby said wheels collectively perform a guide function performed by planar wings.

28. The toner cartridge of claim 27, further comprising:

a flat plate formed in each sidewall of said waste bin in trailing relation to said plurality of wheel members;

a locating pin formed in each sidewall of said waste bin in trailing relation to said plurality of wheel members;

said guide groove formed in said printer having an undercut area at its trailing end;

said locating pin being positioned in said undercut area when said toner cartridge is fully received within said printer;

whereby said toner cartridge locks into place when each locating pin fits into its associated undercut area; and

whereby lifting a trailing end of said toner cartridge to remove said toner cartridge from said printer cavity retracts each locating pin from its associated undercut area.

29. The toner cartridge of claim 1, further comprising:

a concave depression formed in a top edge of each sidewall;

each concave depression adapted to receive downward forcing levers that form a part of said printer;

each concave depression being effective to center downwardly directed force provided by said downward forcing levers.

30. The toner cartridge of claim 1, further comprising:

said waste bin side wall having a recess formed therein to provide clearance for said waste bin when it is pivoted upwardly relative to the printer during removal of said toner cartridge from said printer.

31. The toner cartridge of claim 1, further comprising:

a hopper pin mounting hole formed in each waste bin sidewall;

each hopper pin mounting hole adapted to receive a mounting pin formed in said hopper with zero vertical clearance;

whereby said hopper does not move relative to said waste bin when said hopper and waste bin are interconnected to one another;

whereby no shipping strap is required when said hopper and waste bin are transported as a unit in interconnected relation to one another.

32. The toner cartridge of claim 1, further comprising:

a latching means for interconnecting said waste bin and said hopper to one another in a non-pivotal interconnection.

33. The toner cartridge of claim 32, further comprising:

said latching means including a hopper wheel horizontal retainer formed integrally with said waste bin;

said latching means further including a hopper wheel vertical lock formed integrally with waste bin;

said hopper wheel retainer and said hopper wheel vertical lock disposed in cooperative relation to one another and being adapted to engage a hopper wheel that forms a part of said hopper;

whereby to assemble said toner cartridge, said waste bin is held above said hopper so that said hopper wheel horizontal retainer and said hopper wheel vertical lock are positioned directly above said hopper wheel;

whereby said waste bin is lowered until said hopper wheel is engaged by said hopper wheel horizontal retainer and said hopper wheel vertical lock.

34. The toner cartridge of claim 33, further comprising:

said hopper wheel horizontal retainer having an upwardly inclined surface, a concavity, and a hump between said upwardly inclined surface and said concavity;

said hopper wheel engaging said upwardly inclined surface and causing said hopper wheel horizontal retainer to momentarily deflect from its position of repose when said waste bin is lowered with respect to said hopper;

said hopper wheel rolling over said hump and the resiliency of said hopper wheel horizontal retainer causing said hopper wheel horizontal retainer to return to its position of repose, thereby capturing said hopper wheel in said concavity.

35. The toner cartridge of claim 34, further comprising:

said hopper wheel simultaneously causing said hopper wheel vertical lock to deflect away from its position of repose;

said hopper wheel vertical lock having a straight construction and a hook formed at a free leading end thereof;

said vertical lock returning to its position of repose, thereby capturing a bottom of said hopper wheel when said hopper wheel clears said hook;

whereby said hopper wheel is captured on a trailing side thereof by said concavity and on its bottom side by said hook.

36. The toner cartridge of claim 35, further comprising:

said hopper wheel vertical lock having a straight configuration and a hook formed in a free end thereof;

said hopper wheel vertical lock being formed in depending relation to a preselected sidewall of said waste bin;

a guide rail integrally formed with a preselected sidewall of said waste bin;

said guide rail being rollingly engaged by said hopper wheel as said waste bin is lowered into interconnecting relation to said hopper;

said hopper wheel rolling along said guide rail until said hopper wheel is captured by said hook.

37. The toner cartridge of claim 1, further comprising:

an aperture formed in each sidewall of said waste bin near a trailing end thereof;

each aperture adapted to receive a mounting pin that forms a part of said hopper;

a taper formed in each aperture so that each aperture is smaller on the outside surface of the sidewall than on an inside surface thereof;

whereby when said waste bin is lowered onto said hopper to interconnect said waste bin and hopper together, said hopper mounting pins enters into their respective apertures;

whereby each taper urges said hopper into abutting relation to said waste bin;

whereby each taper eliminates play from its associated aperture and therefore eliminates any need for springs to urge said hopper into abutting relation with said waste bin.

38. The toner cartridge of claim 37, further comprising:

said waste bin having a driving and a driven side;

a first hopper wheel mounted on a first hopper wheel axle that depends from a sidewall on said driving side and a second hopper wheel mounted on a second hopper wheel axle that depends from a sidewall on said driven side;

each hopper wheel having an axle;

a retainer formed by a raised wall formed in each sidewall of said waste bin;

each retainer adapted to capture and guide each hopper wheel axle when said waste bin is lowered into interconnecting relation to said hopper;

a lowermost end of each retainer having a forwardly extending bend formed therein so that as each taper urges said hopper into abutting relation to said waste bin, each hopper wheel axle is pushed into said forward bend;

whereby a nip formed by contact between the photoconductive drum of said waste bin and the developer roller of said hopper is maintained.

39. The toner cartridge of claim 37, further comprising:

said waste bin having a driving and a driven side;

a first hopper wheel mounted on a first hopper wheel axle that depends from a sidewall on said driving side and a second hopper wheel mounted on a second hopper wheel axle that depends from a sidewall on said driven side;

each hopper wheel having an axle;

a first straight, horizontally disposed slot formed in the sidewall of said driving side and a second straight, horizontally disposed slot formed in the sidewall of the driven side of said waste bin;

said first and second hopper wheel axles being aligned with said first and second slots, respectively, and being slidably introduced thereinto;

said hopper mounting pins being inserted into each tapered aperture so that said respective tapered walls shove said hopper forward until said hopper wheel axles are urged into said forward ends of said slots.

40. The toner cartridge of claim 23, further comprising:

a flat mounting surface formed in a vertical wall of said waste bin, said flat mounting surface adapted to receive a first circuit board of large size and therefore also being adapted to receive a second circuit board having a size that is smaller than said large size;

a structure that prevents placement of a replacement circuit board into overlying relation to said first circuit board;

said structure therefore also preventing placement of a replacement circuit board into overlying relation to said second circuit board;

said structure including an upper and a lower arcuate blocking member;

said upper arcuate member extending from a point just above said flat mounting surface to a lower surface of said planar wing; and

said lower arcuate member extending from a point just below said flat mounting surface to a preselected point at a still further lower elevation;

whereby said upper and lower arcuate blocking members obstruct the placing of a second circuit board over said first circuit board.

41. The toner cartridge of claim 2, further comprising:

a plurality of strengthening ribs formed in each of said sidewalls to enhance the structural integrity of said sidewalls.

42. The toner cartridge of claim 1, further comprising:

a first circuit board mounting pad mounted on said toner cartridge in substantially horizontally-mounted relation thereto;

a first circuit board mounted on said first circuit board mounting pad;

a first signal-generating means associated with said first circuit board;

said first signal-generating means adapted to generate a first signal upon contact of said first circuit board by an electrical contact means;

a second circuit board mounting pad mounted on said toner cartridge is substantially vertically-mounted relation thereto;

a second circuit board mounted on said second circuit board mounting pad;

a second signal-generating means associated with said second circuit board;

said second signal-generating means adapted to generate a second signal upon contact of said second circuit board by an electrical contact means;

a signal-receiving means having a default setting that recognizes absence of receipt of a signal from said first signal-generating means as indicating the presence of a toner cartridge that has utility only with a plurality of printer models of a first printer;

said signal-receiving means recognizing receipt of a signal from said first signal-generating means as indicating the presence of a toner cartridge that has utility only with a plurality of printer models of a second printer; and

said signal-receiving means recognizing receipt of a signal from said second signal-generating means as indicating the presence of a toner cartridge that has utility with printers that belong to a plurality of families of printers.

43. The toner cartridge of claim 42, further comprising:

a third signal-generating means mounted to a waste bin;

said third signal-generating means adapted to generate a third signal when a toner cartridge belonging to a predetermined family of printers is inserted into a toner cartridge-receiving cavity of a printer;

a fourth signal-generating means mounted to said waste bin;

said fourth signal-generating means adapted to generate a fourth signal when a toner cartridge belonging to a predetermined family of printers is inserted into a toner cartridge-receiving cavity of a printer;

said signal-receiving means having a first, default state that recognizes the receipt of a signal from said second signal-generating means and the absence of receipt of a signal from said third and fourth signal-generating means as indicating the presence of a toner cartridge that fits a first predetermined family of printers;

said signal-receiving means having a second, actuated state that recognizes a signal from said second signal-generating means, a signal from said third signal-generating means, and an absence of a signal from said fourth signal-generating means as indicating the presence of a toner cartridge that fits a second predetermined family of printers;

said signal-receiving means having a third, actuated state that recognizes a signal from said second signal-generating means, an absence of a signal from said third signal-generating means, and a signal from said fourth signal-generating means as indicating the presence of a toner cartridge that fits a third predetermined family of printers; and

said signal-receiving means having a fourth, actuated state that recognizes a signal from said second signal-generating means, a signal from said third signal-generating means, and a signal from said fourth signal-generating means as indicating the presence of a toner cartridge that fits a fourth predetermined family of printers.

44. The toner cartridge of claim 43, further comprising:

said third signal-generating means including a switch and a switch actuator;

said switch actuator of said third signal-generating means mounted to a first outboard end of said leading end of said waste bin.

45. The toner cartridge of claim 44, further comprising:

said fourth signal-generating means including a switch and a switch actuator;

said switch actuator of said fourth signal-generating means mounted to said leading end of said waste bin approximately mid-length thereof.

46. The toner cartridge of claim 43, further comprising:

a printer brand selector switch adapted to be manually operated by a printer user;

said printer brand selector switch having a plurality of discrete settings;

each discrete setting of said plurality of discrete settings identifying a specific printer by its brand name;

a fifth signal-generating means associated with said printer brand selector switch, said fifth signal-generating means adapted to send a plurality of printer-identifying signals to said signal-receiving means; and

each printer-identifying signal of said plurality of printer-identifying signals identifying a specific brand of printers.

47. The toner cartridge of claim 46, further comprising:

said signal-receiving means adapted to generate a first specific printer-activation signal upon receipt of a signal from said second signal-generating means, upon absence of receipt of a signal from said third signal-generating means, and absence of receipt of a signal from said fourth signal-generating means as indicating the presence of a toner cartridge that fits a second predetermined family of printers, and upon receipt of a signal from said fifth signal-generating means that identifies a specific printer brand from among the printers in said second family of printers;

whereby a printer user inserts a toner cartridge into a toner cartridge-receiving cavity of a printer and manually sets said printer brand selector switch to a setting that identifies the brand name of the printer into which said toner cartridge is received.

48. The toner cartridge of claim 46, further comprising:

said signal-receiving means adapted to generate a second specific printer-activation signal upon receipt of a signal from said second signal-generating means, upon receipt of a signal from said third signal-generating means, and upon absence of receipt of a signal from said fourth signal-



generating means as indicating the presence of a toner cartridge that fits a third predetermined family of printers, and upon receipt of a printer-identifying signal from said fifth signal-generating means that identified a specific printer brand from among the printers in said third family of printers;

whereby a printer user inserts a toner cartridge into a toner cartridge-receiving cavity of a printer and manually sets said printer brand selector switch to a setting that identifies the brand name of the printer into which said toner cartridge is received.

49. The toner cartridge of claim 46, further comprising:

said signal-receiving means adapted to generate a third specific printer-activation signal upon receipt of a signal from said second signal-generating means, upon absence of receipt of a signal from said third signal-generating means, and upon receipt of a signal from said fourth signal-generating means as indicating the presence of a toner cartridge that fits a third predetermined family of printers, and upon receipt of a signal from said fifth signal-generating means that identified a specific printer brand from among the printers in said third family of printers;

whereby a printer user inserts a toner cartridge into a toner cartridge-receiving cavity of a printer and manually sets said printer brand selector switch to a setting that identifies the brand name of the printer into which said toner cartridge is received.

50. The toner cartridge of claim 46, further comprising:

said signal-receiving means adapted to generate a fourth specific printer-activation signal upon receipt of a signal from said second signal-generating means, upon receipt of a signal from said third signal-generating means, and upon receipt of a signal from said fourth signal-generating means as indicating the presence of a toner cartridge that fits a fourth predetermined family of printers, and upon receipt of a printer-identifying signal from said fifth signal-generating means that identifies a specific printer brand from among the printers in said fourth family of printers;

whereby a printer user inserts a toner cartridge into a toner cartridge-receiving cavity of a printer and manually sets said printer brand selector switch to a setting that identifies the brand name of the printer into which said toner cartridge is received.

51. The toner cartridge of claim 43, further comprising:

said third signal-generating means including a microswitch having an actuator that is actuated when contacted by a protuberance formed in a printer;

whereby a protuberance formed in said printer-receiving cavity depresses the actuator and the microswitch sends a signal through said conductive ribbon to the circuit board that controls operation of the printer.

52. The toner cartridge of claim 51, further comprising:  
said microswitch including a mechanical switch actuator.

53. The toner cartridge of claim 51, further comprising:  
said microswitch including an actuator of the pressure-sensitive flexible printed circuit board switch type.

54. The toner cartridge of claim 51, further comprising:  
said microswitch being an optical microswitch.

55. The toner cartridge of claim 46, further comprising:  
said printer brand selection switch including a manually-operated rotary dial.

56. The toner cartridge of claim 46, further comprising:  
said printer brand selection switch including a slideably-mounted switch.

57. The toner cartridge of claim 46, further comprising:  
a conductor that interconnects said printer brand selector switch and said horizontally-mounted circuit board, said horizontally-mounted circuit board and said vertically-mounted circuit board, said vertically-mounted circuit board and said third signal-generating means, and said third signal-generating means to said fourth signal-generating means.

58. The toner cartridge of claim 57, further comprising:  
a channel formed in said toner cartridge to accommodate said conductor;  
said channel providing a recessed mounting to prevent damage to said conductor during insertion of the toner cartridge into said printer-receiving cavity.

59. The toner cartridge of claim 58, further comprising:  
an opening formed in a vertical wall of said waste bin between an outboard edge of said toner cartridge and an outboard edge of said leading end of said waste bin;  
whereby said opening enables said conductor to follow a path of travel from said horizontal circuit board to said switch actuators where at least part of that path of travel is internal to said toner cartridge.

60. The toner cartridge of claim 59, further comprising:

said opening being structurally reinforced about its perimeter.

61. The toner cartridge of claim 42, further comprising:

a first connection pad and a second connection pad mounted on said horizontally-mounted circuit board;

said first connection pad and said second connection pad adapted to make electrical contact with upper door-mounted electrical contacts that are provided on printers of a particular family of printers.

62. The toner cartridge of claim 42, further comprising:

a first connection pad and a second connection pad mounted on said vertically-mounted circuit board;

said first connection pad and said second connection pad adapted to make electrical contact with electrical contacts that are provided on printers that belong to a plurality of families of printers.

63. The toner cartridge of claim 42, further comprising:

a recess formed in said toner cartridge adjacent said first circuit board mounting pad;  
said recess adapted to receive a label providing instructions to a user.

64. The toner cartridge of claim 63, further comprising:

a first connector providing electrical communication between a first end of said conductor and said horizontal circuit board;

said first connector including a first terminal connector secured to said first end of said conductor and a first receiver connector secured to said horizontal circuit board;

a second connector providing electrical communication between a second end of said conductor and said vertically-mounted circuit board;

said second connector including a second terminal connector secured to said second end of said conductor and a second receiver connector secured to said vertical circuit board.

65. The toner cartridge of claim 64, further comprising:

said second receiver connector being horizontally disposed.

66. The toner cartridge of claim 63, further comprising:

an “L-shaped” circuit board;

said second receiver connector being vertically mounted on said “L-shaped” circuit board.

67. The toner cartridge of claim 1, further comprising:

a substantially horizontal slot formed in an interior sidewall of said toner cartridge on a driven side of said toner cartridge;

said substantially horizontal slot adapted to slidingly receive a hinge pin of a shutter door.

68. The toner cartridge of claim 67, further comprising:

said shutter having a bi-fold door construction;

said bi-fold door construction including a leading half and a trailing half;

said leading half being hingedly connected at its leading end to a top wall of said toner cartridge;

said trailing half being hingedly connected at its trailing end to said top wall of said toner cartridge;

said leading half being hingedly connected at its trailing end to a leading end of said trailing half along a folding line;

a hinge substantially coincident with said folding line, said hinge extending into said substantially horizontal slot and said hinge being constrained to move along the extent of said substantially horizontal slot in a trailing-to-leading direction as said shutter is opened and in a leading-to-trailing direction as said shutter is closed.

69. The toner cartridge of claim 67, further comprising:

said shutter door having an accordion construction.

70. The toner cartridge of claim 67, further comprising:

said shutter door having a tri-fold construction.

71. The toner cartridge of claim 67, further comprising:

said shutter door being a sliding pocket door that is telescopically received within a pocket when retracted.

72. The toner cartridge of claim 67, further comprising:

said shutter door being flexible and being coiled about a reel when retracted and uncoiled from said reel when extended.